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ABSTRACT

Information on a California senate bill that would establish a common course-numbering system is presented, along with the recommendations of the California Postsecondary Education Commission. After reviewing common course numbering in other states, information is provided on the intersegmental system currently operating in California: the California Articulation Number (CAN) system. CAN is a cross-reference system that identifies transferable lower-division, introductory, and preparatory courses commonly taught at two- and four-year California campuses. The statutory specifications for a common course-numbering system are designed to promote the transfer of community college students to four-year institutions and to identify courses with similar educational objectives related to student competencies. The Commission concludes that: (1) a course numbering system would help students to plan studies and to evaluate transfer choices; (2) a uniform course-numbering system like Florida's is unnecessary in California; (3) course-equivalency guides and matrices of equivalent courses in particular programs are of limited value in California; and (4) a generic numbering system including a common course prefix and number which retains schools' own course numbers/titles, would be suitable. Steps to further implement the CAN system are recommended. (SW)

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COMMON COURSE-NUMBERING SYSTEMS

A Report to the Legislature in Response to Senate Bill 851 (1983)

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The Commission consists of 15 members. Nine represent the general public, with three each appointed by the Speaker of the Assembly, the Senate Rules Committee, and the Governor. The other six represent the major educational systems of the State.

The Commission holds regular public meetings throughout the year at which it takes action on staff studies and adopts positions on legislative proposals affecting postsecondary education. Further information about the Commission, its meetings, its staff, and its other publications may be obtained from the Commission offices at 1020 Twelfth Street, Sacramento, California 95814; telephone (916) 445-7933.

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COMMON COURSE-NUMBERING SYSTEMS

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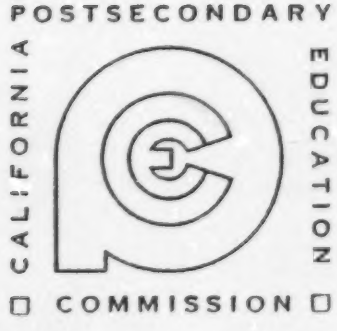

CALIFORNIA POSTSECONDARY EDUCATION COMMISSION
1020 Twelfth Street, Sacramento, California 95814

Commission Report 84-34
Adopted December 10, 1984

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INTRODUCTION

REASONS FOR THE STUDY

Senate Bill 851 (1983) -- the Community College financing bill enacted into statute in Chapter 565 of the Education Code -- requested the Commission to undertake the following study of common course-numbering systems:

> SEC. 9. The California Postsecondary Education Commission shall develop a plan for a course-numbering system to be used by public postsecondary education institutions. If the Commission determines that the common course-numbering system is feasible, the Commission shall recommend a plan to implement the system The course-numbering system shall be designed to do all of the following:
>
> a. Promote the transfer of community college students to four-year postsecondary institutions by simplifying the identification of transferable courses and the specific disciplines and programs to which those courses are transferable.
>
> b. Promote the development of a common method of course identification within each segment of public postsecondary education where there is a clear need for such a common method.
>
> c. Help identify courses with comparable content, so that certain competencies can be expected upon completion of such courses.
>
> SEC. 10. The California Postsecondary Education shall study efforts to achieve a common course-numbering system in public postsecondary education in other states, evaluate the various methods employed to achieve such a system, and estimate the cost of implementing each method in California.
>
> SEC. 11. The California Postsecondary Education Commission shall submit its findings and recommendations pursuant to Sections 9 and 10 of this act to the Legislature on or before January 1, 1985.

The Legislature made this request in large part because of widespread concern about barriers to transfer from Community Colleges to the University of California and the California State University, particularly for Black, Hispanic, and other disadvantaged students.

ISSUES ADDRESSED BY THE STUDY

The following issues are implied in the statute requesting the study:

1. The extent to which a common course-numbering system in California would reduce problems of Community College transfer students in meeting baccalaureate-degree requirements in an efficient and timely fashion;

2. The feasibility of implementing or adapting a statewide common course-numbering system like that in place in Florida;

3. The cost of implementing such a system, including developmental and maintenance costs, and its likely cost effectiveness;

4. The alternatives to a uniform, statewide course-numbering system, their feasibility, and cost; and

5. The ability of the Community Colleges, the University, and the State University to implement alternative systems and their potential support for these options.

INFORMATION GATHERING

The Commission has taken three approaches to gather information about common course-numbering systems in other states -- (1) a library search, (2) contacts with selected national higher education associations, and (3) a survey of state-level administrators of community colleges and other public two-year institutions in other states.

Library Search

The library search included review of the Educational Resources Information Center (ERIC) system, where no descriptors could be found, and other bibliographic reference services. It produced no references to published information about common course-numbering systems or alternatives developed to achieve the objective of simplifying course articulation.

Contacts with Higher Education Associations

Telephone calls were made to staff in the three national associations most likely to be knowledgeable about activity across the country in the area of common course-numbering systems: the American Association of Collegiate Registrars and Admissions Officers, whose members would likely be involved in the development of any such system; the American Association of Community and Junior Colleges, because of the strong interest of these institutions in improving articulation; and the American Council on Education, which maintains an Office of Credit Evaluation to assist member institutions. Contact was also made with the leadership of the Pacific Coast Association of Collegiate Registrars and Admissions Officers to find out about any regional activity relating to common course numbering.

None of these associations was involved in or had any information about the development of common course-numbering systems or alternatives to them

beyond confirmation of the state of Florida's activity in this area. Except for the American Association of Community and Junior Colleges, their staff expressed little interest in the subject.

Survey of Other States

After failing to obtain information by means of either the library search or contacts with associations, Commission staff decided to send a letter to the chief state-level executive officers for community and other types of two-year colleges in each state and Puerto Rico asking for information about activities, plans, or expectations involving common course-numbering systems to improve articulation between two-and four-year institutions.

Replies have been received from all but three states -- Alaska, Hawaii, and Wyoming -- in two of which community colleges are a part of the state university. Officials in 21 states responded with an unqualified "no" to the question of any special efforts to articulate courses, while 24 described some alternative to common course numbering. Description and analysis of the various approaches are given in Part One of the report.

RELATED COMMISSION ACTIVITIES

Commission staff has been engaged in background work related to the study for the past several months in connection with other assignments. These activities include meetings with staff of the City University of New York on improving procedures for transferring course credit between its community colleges and four-year colleges, consultation with the State Higher Education Executive Officers (fiscal and academic officers), and state-level liaison for the four-state project of the Western Interstate Commission for Higher Education to improve transfer opportunities for disadvantaged students by finding better ways to relate comparable courses in community colleges and four-year institutions.

The common course-numbering study is an important component of the Commission's current inquiry into transfer between Community Colleges and the University of California and the California State Univeristy. That is being concluded at the same time as this study. Only the course-numbering study has been specifically mandated by the Legislature, but both are expected to result in recommendations for action at the State, segmental, and institutional levels to improve transfer and articulation.

ORGANIZATION OF THE REPORT

Part One of the report describes the current status of common course-numbering systems and their alternatives among the other states. Part Two describes the one intersegmental system now operating in California: the California Articulation Number (CAN) system. Part Three assesses this

system in light of legislative and other specifications. And Part Four contains the Commission's conclusions and recommendations regarding common course numbering in California.

ONE

COMMON COURSE NUMBERING IN OTHER STATES

According to the Commission's survey of state-level executive officers for community colleges and other public two-year institutions, only Florida and Puerto Rico have a common course-numbering system in place and none of the rest report plans for or interest in developing such a system. Since two-year colleges in Puerto Rico are part of its university system, Florida appears to be the only state with two or more segments of public higher education to have developed a common course-numbering system.

FLORIDA'S STATEWIDE COURSE NUMBERING SYSTEM

The Florida legislature established Florida's Statewide Course Numbering System in the early 197Cs and required all public community colleges and universities to participate in it. It later amended the law to include adult postsecondary vocational courses. By 1983, the System included 157 subject-matter areas, each with its own faculty committee to maintain the system, and about 55,000 courses at all levels. The System is currently administered by a state agency with a director, four professional staff members, and two support-staff members. These staff members are assisted by a faculty committee coordinator in each of the 157 subject-matter areas and a contact person at each participating institution. Its budget for 1984-85 is $253,386, which does not include computer-related expenses for which no charge is made or contributed faculty and other institutional staff time.

Purposes of the Florida System

The overriding purpose of Florida's System is to facilitate the automatic transfer of credit for equivalent courses offered by Florida's public two-year and four-year institutions. At the same time, the System is intended to reduce the need for decision making about transfer credit by institutional admission officers and the unnecessary repetition of courses by transfer students because of poor decisions.

Sub-purposes of the System are:

- To provide the framework for each subject-matter area which all institutions use to categorize courses in the System;
- To be a joint undertaking of Florida's public community colleges and universities, with coordination by a state agency;
- To place responsibility with the faculties of these institutions for determining course equivalencies on the basis of detailed course descriptions and syllabi;

- To establish course inventories of all equivalent courses offered by Florida's public institutions; and
- To provide statewide course descriptions or course equivalency profiles for use in determining equivalencies of new or modified courses.

Decisions in Developing the System

The first decision in creating Florida's System was to choose course classifications that would transcend institutional organizational structures. In other words, the system would be independent of departments or divisions offering the courses at a particular institution. Instead, courses are categorized according to subject matter or content, independent of level or mode of instruction but taking into account prerequisites, the kind of student for whom the courses are designed, level of complexity, depth and detail with which content is treated, and outcomes -- topics or specific skills.

A second major decision was to establish faculty committees in the subject-matter areas to develop and maintain the System. Committees include faculty representatives from both community colleges and the universities and are chaired by a member who serves as coordinator with the System's central-office staff. Responsibilities of these committees are developing taxonomies, analyzing course descriptions, assigning course numbers, and determining course equivalencies.

Florida's Course Numbers

Florida's statewide course numbers include a three-letter prefix designating the subject-matter area, a three-digit number assigned by the System, and a single, institutionally assigned digit for level at which the course is offered (for example, freshman or sophomore). Common titles and descriptions are developed for all courses, but institutions are not prohibited from using their own titles and descriptions as well.

Procedures for Maintaining the System

The number of subject-matter areas and courses is expected to increase over time, and Florida's institutions will both add and make changes in courses now in the System. Central-office staff receives and examines courses transmitted by institutions for action in the System to ensure that proposed numbers reflect the proper subject-matter area with respect to content and that course descriptions are detailed enough to make an appropriate course-number assignment. Questions and staff recommendations are referred to subject-matter committee coordinators if the proposed course placement seems to be inappropriate. These committee coordinators, with the help of their committees in difficult cases, either approve the proposed course numbers or assign more appropriate numbers before the courses are entered. State agency action is required when institutions change the content, prerequisites, or numbers of existing courses, as well as develop new courses.

Subject-matter committees meet upon request of the System's staff, the State Department of Education, or committee members if problems are perceived or changes in legislation affect the subject-matter area and to review transactions made by the coordinators. Central-office staff provide supports to the committees.

Institutional contact persons are also critical to the success of the System. They are responsible for ensuring that courses have been approved by their institution's curriculum committee before submission to the state agency, that new courses have been given proposed prefixes and numbers, and that course descriptions or syllabi are provided to the central-office staff. They also receive information from these staff members about action on course numbers and are responsible for notifying appropriate campus staff about such actions.

ALTERNATIVES IN OTHER STATES

Responses to the Commission's survey of other states are summarized in Table 1 on the next two pages to indicate those that have no type of common course numbering or did not describe an alternative, those with some alternative to common course numbering, and the three that did not respond.

The Commission has identified four alternatives to statewide common course numbering for all public postsecondary education from its survey: (1) common course prefixes used by all institutions, (2) common course numbers used by all community colleges and other public two-year institutions, (3) course-equvalency guides or matrices, and (4) institution-to-institution or regional agreements.

Common Course Prefixes

The adoption of common course prefixes is a first step in developing a common course-numbering system that has been taken by groups of institutions in some states as an alternative to totally common numbers. The National Center for Education Statistics published a taxonomy of Education Subject Matter in 1975 that makes it possible to describe courses by a combination of up to three general topics and by a level of complexity, thus providing more precision when institutions attempt to articulate their course offerings and allowing users to address courses by content, beyond title alone. This system is being used in a pilot project at the University of California, Irvine, in cooperation with the Los Angeles Harbor College that is developing a computerized transfer student planning system. Institutions between which students transfer will not be required to have common course numbers but, instead, will be able to reference each other's courses through use of the taxonomy.

What would appear to be a more simple approach to using a common course prefix has been used by institutions or segments in other states. Two examples are the 112 four-letter prefix abbreviations for both liberal arts and vocational courses used by the Virginia Community College System, and

TABLE 1 State Responses to the Commission's Inquiry About Common Course-Numbering Systems

State	Yes	Unqualified No	No, But Some Qualifications	No Response	Comments
Alabama			X		Two-year colleges will have common numbers.
Alaska				X	Two-year colleges are part of the University.
Arizona			X		Course equivalency guide now; will have common system for numbering courses later.
Arkansas		X			
Colorado			X		NCES CIP code embedded in course number.
Connecticut		X			
Delaware			X		Only one technical-community college.
Florida	X				Statewide course-numbering system described in the report.
Georgia			X		Core curriculum for the University system.
Hawaii				X	Community colleges are part of the University.
Idaho			X		Only two community colleges in the state.
Illinois			X		Common course numbering for community colleges for funding purposes.
Indiana		X			
Iowa		X			
Kansas			X		Automatic junior standing for degree holders.
Kentucky			X		Common course numbering with one University of Kentucky campus; one board governs both segments.
Louisiana			X		Articulation guidelines for the State University system.
Maine		X			
Maryland		X			
Massachusetts		X			
Michigan			X		Common community college course numbering for funding purposes.
Minnesota		X			
Mississippi			X		Common community college course numbers.
Missouri			X		Transfer guidelines revised and strengthened.

TABLE 1 (continued)

State	Yes	Unqualified No	No, But Some Qualifications	No Response	Comments
Montana		X			
Nebraska			X		Common course numbers in area technical colleges.
Nevada			X		Common course numbers but no equivalencies yet.
New Hampshire		X			
New Jersey			X		"Full-faith-and-credit" policy alternative.
New Mexico		X			
New York		X			
North Carolina		X			
North Dakota		X			
Ohio		X			
Oklahoma			X		System for numbering courses but no common numbers.
Oregon			X		Transfer program guide and other materials.
Pennsylvania		X			
Rhode Island		X			Only one community college.
South Carolina			X		Articulation agreements for transfers with Associate in Arts or Science degree.
South Dakota		X			
Tennessee		X			
Texas			X		Alternative of basic core curriculum.
Utah			X		Common numbers for general education subjects.
Vermont		X			
Virginia			X		Statewide course equivalency guide.
Washington			X		Statewide transfer credit agreement and policy.
West Virginia		X			
Wisconsin			X		Common course-numbering for technical institutes.
Wyoming				X	
Puerto Rico	X				Community Colleges are part of the University.

Source: California Postsecondary Education Commission staff analysis of responses from state-level executive officers of community colleges and other public two-year institutions, Fall 1984.

the three-letter prefix abbreviations being worked out by the Maricopa Community Colleges in Arizona in conjunction with Arizona State University, to which most of their students transfer. Each system also includes a brief prefix definition to indicate the specific subject-matter area, for example, ACC/ACCT-Accounting. This alternative to common course numbering does not, however, address the problem of the same course being offered by different divisions of the same institution or at different institutions.

Common Course Numbers for Two-Year Institutions

Community colleges and other types of public two-year institutions in several states have developed a common course-numbering system for their segment but have not extended it to other segments for articulation purposes.

For example, the Illinois Community College Board employs a "Generic Course List" which enables it to match each specific course offered by each college to one of the generic courses by an identification number that includes the Classification of Instructional Programs (CIP) code developed by the National Center for Education Statistics (Malitz, 1981). Although the primary purpose of the generic course list was to provide consistent classification of similar courses for state funding and unit cost, the system is now in fact being used by some state universities for course articulation. The Michigan Community Colleges have developed a similar approach, also primarily for funding purposes.

Public junior colleges in Mississippi have a uniform course-numbering system for their academic transfer courses that does not encompass the senior institutions but is helpful to them in advising transfer students and evaluating their transcripts. Course equivalencies had been worked out with Mississippi State University and the University of Mississippi and printed in their catalogs in the 1970s, but the practice has now stopped because of turnover in personnel.

The Alabama Community Colleges are attempting to use a similar approach to common course numbering within that segment to improve articulation with four-year institutions but it will not include them at this time.

In Nebraska, the six area Technical Community Colleges are working on a common course-numbering system in response to funding considerations that is expected to serve as a means of ascertaining course comparability and perhaps even describing discipline competencies. The system does not include either the other public community colleges or four-year institutions, although students are now transferring from the technical colleges to the latter with little difficulty.

In South Carolina, the state system of 16 technical colleges has a common course-numbering system that does not extend to other types of institutions. However, the system has entered into an agreement with the four-year institutions for the transfer of students in its Associate in Arts and Associate in Science programs, and some of the technical colleges have developed unilateral transfer agreements with single four-year institutions.

The Wisconsin Board of Vocational, Technical, and Adult Education operates what is probably one of the oldest common course-numbering systems in American postsecondary education, developed in the 1950s with a grant by the IBM Corporation to the Milwaukee Vocational-Technical School to develop a taxonomy for occupational education. The system applies to both courses and programs and utilizes the concept of instructional areas identified with occupational disciplines. No attempt has been made to correlate course or program numbers with the University of Wisconsin System's course numbers, however, since the Vocational, Technical, and Adult Education system emphasizes occupational education rather than the transfer function.

Course Equivalency Guides or Matrices

Course equivalency systems or matrices appear to be a popular alternative to common course-numbering systems. They may be developed for one community college or for an entire state. Although Florida operates its statewide common course-numbering system, Miami-Dade College also prepares matrices that display for each major how each transfer course offered by Miami-Dade satisfies a requirement or otherwise receives baccalaureate-degree credit at each public Florida university. New Mexico is in an early stage of using statewide articulation committees in each of the major fields in which students transfer to develop generalized articulation matrices that will display the courses students must take in the community colleges to satisfy lower-division requirements of the universities, without using common course numbers.

Several states produce course-equivalency guides for all public institutions in the state. The Virginia Community College System publishes an annual guide, Transfer Policies and Practices, that includes more than 100 pages of course-by-course listings and their transfer status at each public four-year college or university -- transferable to all divisions, transferable but with special conditions, transferable but with possible reduced credit, or not transferable. It organizes these lists in terms of the common prefixes used by all community colleges in Virginia (described above) and the course number within each prefix, with no indication of where the courses are offered.

The Arizona Commission for Postsecondary Education also publishes an annual course equivalency guide currently 63 pages in length (Cawley, 1984). For each major offered for transfer by Arizona's 11 community colleges, it displays course equivalents for Arizona's three public universities -- Arizona State University, Northern Arizona University, and the University of Arizona, with the amount of credit each of them awards and any special conditions for doing so. A new course-numbering system is to be in place in Arizona's community colleges by July 1987 that will not entail common numbers but, instead, will specify the range of numbers to be used at the freshman (100 to 199) and sophomore (200 to 299) levels and those unique to the community colleges and presumed to be non-transferable (other than 100 to 299). In addition, each course number is to include a three-letter prefix and three numerical characters to designate the particular course.

Interinstitutional Alternatives

The Commission's survey of the states produced several examples of alternatives to statewide common course-numbering systems that involve groups of institutions. For instance, the 13 community colleges in Kentucky and the Lexington Campus of the University of Kentucky, whose Board of Trustees also governs the community colleges, use common course numbering, but these numbers are not the same as those used by other public four-year institutions in the state.

The College of Arts and Sciences of the University of Massachusetts at Boston (UMB) published its third course equivalency guide in 1982, with the caution that "this guide is not a Bible." Its 429 pages contain information about course equivalencies for 26 public and private, two- and four-year Massachusetts colleges and universities. For each institution from which students transfer and in each major subject-matter area, each course is displayed with the type of credit awarded (core area, major credit, or elective) and UMB equivalent, if any. Footnotes are also used to note special conditions.

Special agreements being worked out by the Maricopa Community Colleges in Phoenix, Arizona, and Arizona State University were described earlier. The proximity of these institutions and the large volume of transfer between them has led to their being an important part of the Western Interstate Commission on Higher Education project to improve transfer opportunities in the western states and a likely model for other urban institutions in close proximity.

Finally, in Oregon, the initiative for improving interinstitutional articulation appears to have been taken by the State System of Higher Education, comprising the seven four-year institutions, which published last year Transfer Programs: Recommended Programs of Study for Students Transferring from Community Colleges to Oregon's Four-Year State Colleges and Universities. The manual contains statements about transfer to each of the four-year institutions, a recommended basic course list for community college students generally, recommended programs for transfer to each four-year institution in some 80 liberal arts and career fields, and other information about transfer policies.

COMMENTS ON STATEWIDE COURSE NUMBERS

Although the Commission sought no opinions in its national survey, responses from 17 state officials included comments on their state's lack of need for common course numbering or their opposition to it. Among these comments were the following:

Arkansas: Personally, I am pleased that there is no interest in that (common course numbering) project. I had experience with the Texas Course Guide Manual, both as Chief Academic Officer and as an employee of the coordinating board. I think the Texas manual made some contributions, in that it made

people think there was a common system, but I am not sure that it really contributed toward there actually being a common system. In any event, it was extremely time consuming and created a lot of contention.

Colorado: There has been considerable resistance from the institutions to common course numbers, so we are leaving the numbers the same and embedding a code in the computer file.

Georgia: We rejected the idea of developing common course numbering and its complexity in favor of this more simple but effective approach (Core Curriculum for the University System of Georgia that includes the two-year colleges).

Nebraska: The state of Nebraska has not developed, nor are there any plans to develop, a "common course-numbering system." Frankly, we do not see any value in such a system, as a common number does not verify or validate course content.

Texas: In 1973 the Texas Association of Collegiate Registrars and Admissions Officers appointed a committee to consider the development of a uniform course numbering system for the institutions of higher education in Texas. . . . In the years since then, the subject of common course numbering has been mentioned at Board meetings, but each time the institutions are assured that no effort is being made or will be made toward the establishment of any such system.

The Higher Education Coordinating Act of 1965 directs the Coordinating Board to develop and promulgate a base core of general academic courses which, when offered at the junior college during the first two years of collegiate study, shall be freely transferable among all public institutions of higher education in Texas.

Virginia: I must report that there has been no effort to create a common course numbering system in Virginia. Each of the four-year colleges and universities are under its own Board of Visitors, and such a system would be difficult to achieve.

TWO

THE CALIFORNIA ARTICULATION NUMBER (CAN) SYSTEM

In California, the only statewide, intersegmental project underway that seeks to simplify course numbering in postsecondary education is "CAN" -- the California Articulation Number system.

ORIGIN OF CAN

In September 1982, with leadership from Duane L. Anderson, Director of Admissions, Records, School/College Relations at California State University, Sacramento, and Carolyn Salls of the staff, CAN began as a pilot project involving a dozen Community Colleges and five four-year institutions that were updating their articulation agreements and identifying the most commonly transferred courses in 27 disciplines. Its goal was to simplify the confusing multiplicity of course-numbering systems facing transfer students without requiring these institutions to abandon their own course numbers and titles. The extent of this problem is illustrated by Figure 1, which lists the diverse numbers that the 19 campuses of the State University assign to nine of their introductory courses -- a total of 138 different-course numbers -- and by Figure 2, which shows similar diversity of numbers for five biology courses at three State University campuses and 12 Community Colleges in northern California.

Since 1983, CAN has spread statewide on a voluntary basis under a flexible, mutually acceptable set of procedures for institutional participation, with no State funds specifically budgeted for the project.

DEFINITION OF CAN

CAN is a cross-reference system to identify transferable lower-division, introductory, and preparatory courses commonly taught on two- and four-year campuses in California. It offers a common, discipline-related prefix and one- or two-digit number for each of these courses. Participating colleges and universities display these numbers in their catalogs, together with their own numbers, titles, and descriptions for any of these courses. Thus CAN is a system for identifying Community College and other courses taken in lieu of courses offered by four-year institutions to satisfy various degree requirements and does not imply common content or equivalency between these courses.

The CAN system is simple and expandable, in that it is not a uniform course-numbering system and does not include all courses offered by any one institution but instead is presently limited to commonly transferred courses.

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FIGURE 1 Course Numbers of Nine Introductory Courses Offered by All Campuses of the California State University

Campus	English Comp	Spanish	Calculus	Intermediate Algebra	Accounting	Statistics	U.S. History	Western Civ	Chemistry
Bakersfield	Engl. 100	Span. 101	Math. 201	Math. 105	BPA 201	Math. 140	Hist. 231, 232	Hist. 202	Chem. 201
Chico	Engl. 1	Span. 1	Math. 7A	Math. 3	BA 15	Math. 5A	Hist. 50	Hist. 1A	Chem. 1A
Dominguez Hills	Engl. 100	Span. 110	Math. 110	Math. 6	BA 130	Math. 150	Hist. 101	Hist. 110	Chem. 110
Fresno	Engl. 1	Span. 1A	Math. 75	Math. 4	Acct. 1B	Math. 11	Hist. 11, 12	Hist. 1	Chem. 1A
Fullerton	Engl. 100, 101	Span. 101	Math. 130A	Math. 302	Acct. 201A	Math. 120	Hist. 170A, 170B	Hist. 110A	Chem. 100, 100L
Hayward	Engl. 1001	Span. 1401	Math. 1304	Math. 1100	Acct. 2251	Stat. 1000	Hist. 1101, 1102	Hist. 1011	Chem. 1101
Humboldt	Engl. 1	Span. 1A	Math. 2A	Math. D	Acct. 1A	Math. 25	Hist. 1	Hist. 4	Chem. 1A
Long Beach	Engl. 100	Span. 101A	Math. 115	Math. 100	Acct. 201	Math. 180	Hist. 171A, 171B	Hist. 131	Chem. 111A
Los Angeles	Engl. 190	Span. 100A	Math. 206	Math. 101	BA 200A	Math. 274	Hist. 202A,B	Hist. 101A	Chem. 101
Northridge	Engl. 155	Span. 101	Math. 130A	Math. 102	BA 220A	Math. 140	Hist. 270, 271	Hist. 150	Chem. 101
Pomona	Engl. 104	Span. 101	Math. 114	Math. 105	Acct. 124	Stat. 107	Hist. 201, 202	Hist. 101	Chem. 104
Sacramento	Engl. 1A	Span. 1A	Math. 30	Math. 11	BA 1	Stat. 1	Hist. 17A,B	Hist. 4	Chem. 1A
San Bernardino	Engl. 101	Span. 101	Math. 200	Math. 311	Adm. 306	Math. 350	Hist. 200, 201	Hist. 322	Chem. 205
San Diego	Engl. 100	Span. 101	Math. 150	Math. 103	BA 210A	Math. 250	Hist. 110A	Hist. 105	Chem. 200
San Francisco	Engl. 114	Span. 101	Math. 231	Math. 104	BA 100	Math. 124	Hist. 120, 121	Hist. 110	Chem. 111
San Jose	Engl. 1A	Span. 1A	Math. 30	Math. 7	BA 20	Stat. 115A	Hist. 20A,B	Hist. 10A	Chem. 1A
San Luis Obispo	Engl. 104	Span. 101	Math. 141	Math. 113	Acct. 221	Stat. 211	Hist. 201	Hist. 101	Chem. 121
Sonoma	Engl. 101A	Span. 101	Math. 110	Math. 300	Mgmt. 230	Math. 165	Hist. 251, 252	Hist. 201	Chem. 115A
Stanislaus	Engl. 1003	Span. 1010	Math. 1410	Math. 1050	BA 2110	Math. 1600	Hist. 2600	Hist. 1010	Chem. 1100
Number of different numbers	11	8	16	18	19	18	18	16	14

Source: Anderson and Sall, 1984, p. A1.

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FIGURE 2 Course Numbers of Five Biology Courses Offered by Selected Northern California State University Campuses and Community Colleges

	California Articulation Number				
	Biol[1] Basic Concepts	Biol[2] Animal Biology	Biol[3] Plant Biology	Biol[4] Human Biology	Biol[5] Human Anatomy
California State Universities:					
Sacramento	10	11	12	20	22
Chico	1 or 8	10	9	2	3
San Francisco	--	220	200	100	328
California Community Colleges:					
American River College	1A	3	2	16	25+ 26
Sacramento City College	1A	3	2	--	7 or 8A-B
Cosumnes River College	1A	3	10 1B=11 1A+B=12	--	--
Sierra	1	Zoo. 1	Bot. 1	Anat.+ Phys. 12	Anat. 25
Contra Costa	110	170	150	118	132
Diablo Valley	102	130	131	116	129
Los Medanos	--	20TG	21T	30T or 10TG	40T
San Joaquin Delta	1	Zoo. 1	Bot. 1	11	Anat. 1
Santa Rosa	1C	1A	Bot. 1	11	Anat. 1
Shasta	Bio. 1	Zoo. 1	Bot. 1	5A	Anat. 1
Solano	2	3+4	30	12	1
Yuba	1	2	3	--	4

Source: Anderson and Sall, 1984, p. A2.

PROBLEMS THAT CAN SHOULD SOLVE

In aiming to simplify the confusing, multiple course-numbering systems facing transfer students, CAN is a partial solution to the problem of translating and communicating articulation agreements among institutions in such a way that they are readily available in catalogs to students when they are preparing for transfer.

CAN also provides an answer to the problem of institutional autonomy with respect to course numbers and titles by using what might be termed a "neutral" prefix and number. That is, within institutional bounds, departments may develop and assign numbers and titles to courses without having to conform to a State system of uniform numbers and titles.

PRINCIPLES OF CAN

CAN was developed on the principle of using existing written articulation agreements between those institutions where students often transfer and encouraging faculty to develop and update such agreements to cover their most commonly taught courses. An example of such an agreement, on the basis of which California Articulation Numbers are assigned, appears in Figure 3.

A second principle recognizes that California Articulation Numbers relate to subject-matter requirements for transfer and graduation but do not imply commonality of course content and methodology in institutions using these same numbers. In other words, CAN identifies courses offered by one institution in lieu of those offered by others to satisfy certain requirements, thereby respecting the autonomy of each to develop the kind of courses its faculty thinks best meet these requirements.

A third principle is that the CAN system is best developed voluntarily by small groups of two-year and four-year institutions between which sizable numbers of students flow. The work of the subject-matter committees of the California Articulation Council would be useful in implementing CAN, but CAN places reliance on local or regional articulation agreements in addition to statewide efforts. However, California Articulation Numbers cut across institution-by-institution course articulation agreements, as illustrated with several English courses in Figure 4, in a way that shows potential for a statewide cross-reference system.

Fourth, CAN is built on the principle of flexibility. Groups of institutions may participate on different levels of involvement, that is, with as few or many courses in CAN at any one time as they wish to cross reference. And within limits proposed by the committee that designed CAN, the number and nature of institutions that must participate in a group qualifying for CAN is also flexible.

FIGURE 3 Sample Transfer Credit Agreement Between California State University, Sacramento, and Sacramento City College

CALIFORNIA STATE UNIVERSITY SACRAMENTO
Chemistry Department
6000 J Street
Sacramento, CA 95819
(916) 454-6685

CHEMISTRY
TRANSFER CREDIT AGREEMENT with SACRAMENTO CITY COLLEGE
Lower Division Major Preparation

EXPLANATION: CSUS agrees to accept the community college courses listed below toward meeting lower division preparation requirements in this major. Any remaining requirements may be completed upon transfer. If there is a "break" in your attendance, you will be required to fulfill any new requirements which may subsequently be imposed. Contact your counselor or the departmental advising office listed above if you have any questions.

CSUS LOWER DIVISION MAJOR PREPARATION		COMMUNITY COLLEGE PREPARATION	
A. CORE PREPARATION (Required for all programs):			
Chem. 1A, Gen. Chemistry	(5)	Chem. 1A, General Chemistry	(5)
Chem. 1B, Gen. Chemistry	(5)	Chem. 1B, General Chemistry	(5)
Chem. 21, Organic Chem. Lecture	(3)	Chem. 12A, Organic Chemistry	(5)
Chem. 31, Inorganic Quant. Analysis	(4)	Chem. 5, Quantitative Analysis	(4)
Chem. 121, Organic Chemistry Lab	(3)	Chem. 12A, Organic Chemistry	(3)
Math 30, Calculus I	(4)	Math 9A, Calculus	(4)
Math 31, Calculus II	(4)	Math 9B, Calculus	(4)
Math 32, Calculus III	(4)	Math 9C, Calculus	(4)
Phys. 5A-B, Gen. Physics OR	(4-4)	Phys. 5A-B, General Physics OR	(4-4)
Phys. 11A-B-C, Gen. Physics (A)	(4-4-4)	Phys. 4A-B-C, Mechanics; Elect. & Magn; Heat & Light	(4-4-4)
B. OTHER PREPARATION (Required for certain other programs):			
Bio. Sci. 10, Basic Bio. Concepts (B,C)	(3)	Biol. 1A, Principles of Biology	(5)
Chem. 20, Org. Chem., Short Survey (C)	(3)	Chem. 8, Organic Chemistry-Short Survey	(4)
Geol. 10, Physical Geology (A,B)	(3)	Geol. 1, Physical Geology	(4)
Phys. Sci. 4, Intro. Astronomy (C)	(3)	Astr. 1, Intro. to Astronomy	(3)

A. Physics 11A-B-C should be taken for BS degree
B. BA Chemistry Waiver Program
C. Chemistry Emphasis Track of Physical Science Waiver Program

Students are advised to complete calculus and physics before transfer, as those courses are prerequisites to the CSUS physical chemistry, which is a prerequisite to many upper division chemistry courses. Failure to do so will almost certainly increase the time required for graduation.

A "C" grade is required in each prerequisite course. Elementary German is recommended for those seeking a BS degree.

APPROVED James C Hill — Chair, Chemistry Department
Evelyn Salls — Articulation Officer, School/College Relations
DATE 10-3-83 — REVISED

Source: Anderson and Salls, 1984, p. E1.

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FIGURE 4 Sample CAN Articulation Report

REPORTING CAMPUS: E X A M P L E

ENGLISH DISCIPLINE	CAN 1	CAN 2	CAN 3	CAN 4	CAN 5	CAN 6
Your Course No.		Engl. 1001		Engl. 1002		Engl. 2070
List 4-year campuses in alpha-order below:						
CSU, Chico		Engl. 001		–		Engl. 070
CSU, Fresno		Engl. 1		Engl. 20		Engl. 41
San Jose State		Engl. 1A		–		–
UC, Berkeley		Engl. 1		–		–
UC, Davis		Engl. 1		Engl. 3		Engl. 57
XY University		–		Engl. 21		Engl. 30
Z University		–		Engl. 24		–
List 2-year campuses in alpha-order below:						
American River		Engl. 1A		Engl. 1B		Engl. 15
Chabot		Engl. 1A		Engl. 1B		–
Contra Costa		Engl. 120		Engl. 121		–
Diablo Valley		Engl. 1A		Engl. 1B		Engl. 222
Sacramento City		Engl. 1A		Engl. 1B		Engl. 15
College of San Mateo		Engl. 100		Engl. 110		Engl. 161

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Source: Anderson and Salls, 1984, p. F1.

CAN PROCEDURES

Three criteria have been established for participation of two-year and four-year institutions in the CAN system:

1. Public and private accredited institutions offering baccalaureate-level courses and associate or baccalaureate degrees are eligible to participate; but

2. Community and other two-year colleges must have written, faculty-approved articulation agreements, governing all courses to which CANs are to be assigned, with four public California colleges and universities, including at least one University and one State University campus; and

3. Four-year institutions must have agreements with either two-year colleges or at least four other accredited institutions awarding baccalaureate degrees, including one State University campus, one University campus, and not more than one independent college or university in order to satisfy the minimum of four institutions.

Private, non-degree-granting institutions have expressed interest in participating in the CAN system but are not yet included.

Groups of institutions meeting these criteria take the following steps to activate their participation in the CAN system:

1. Review and verify course articulation agreements for accuracy with each campus in the group proposed for participation in CAN;

2. For each campus, prepare a report that includes the names of all institutions participating in the group and lists of the approved, articulated courses, including the CAN course number and prefix accepted for each course and the signature of the institutional official submitting the list, using the Articulation Report form shown in Figure 5; and

3. Compile these institutional and campus reports for submission to the central repository for CAN reports (currently Sacramento State University, Sacramento) by October of each year.

A composite list of CAN participants and courses is compiled and published annually, on the basis of which participating institutions add California Articulation Numbers to courses listed in their catalogs and course schedules.

CURRENT STATUS OF CAN

As of Fall 1984, 110 California institutions are participating in CAN, with additions expected during the annual cycle for submitting new agreements. California Articulation Numbers are now assigned in 27 disciplines that include career fields such as journalism and recreation as well as the arts

FIGURE 5 CAN Articulation Report Form

REPORTING CAMPUS: _____

ARTICULATION REPORT

DISCIPLINE	CAN 1	CAN 2	CAN 3	CAN 4	CAN 5	CAN 6	CAN 7	CAN 8	CAN 9	CAN 10	CAN 11	CAN 12	CAN 13	CAN 14	CAN 15	CAN 16	CAN 17	CAN 18	CAN 19	CAN 20
Your Course No.																				
List 4-year campuses in alpha-order below:																				
List 2-year campuses in alpha-order below:																				

Name/Title of Campus Official _____ Signature _____ Date _____

Source: Anderson and Salls, 1984, p. F1.

and sciences, and to a total of 159 lower-division courses most commonly transferred between institutions.

LIMITATIONS OF CAN

CAN is a voluntary system, and thus some institutions may turn down invitations to participate, while others may agree to participate only on a limited basis. This limit would apply, of course, to any system in California, even if legislatively mandated, since the University of California could not be required to participate because of its constitutional autonomy.

Second, the CAN system involves only those courses caught by both two- and four-year institutions at the lower-division level and thus excludes courses taught only in the Community Colleges that are certified by them as baccalaureate-level instruction and eligible for State University degree credit. These are primarily courses in occupational fields and may be taught at the upper-division level on some State University campuses. CAN also excludes courses taught at the upper-division level in only one segment, since CAN procedures require participation by campuses in more than one segment. However, there is nothing in the conceptualization of the CAN system to preclude single-segmental agreements leading to California Articulation Numbers.

Third, the number of courses with articulation numbers is now only 159 since the only courses included in CAN are those for which written articulation agreements have been reached and its focus has been on those courses most commonly transferred between institutions. However, there are no inherent limitations in the CAN system, and all courses could be included if desired.

A fourth limitation related to the voluntary nature of CAN is its lack of official status in statute or segmental regulations and consequently its unfunded status. Contributed time at the campus and segmental levels has made it work during the past 18 months, but future expansion is limited by the amount of contributed time available to coordinate it. In its 1984 session, the Legislature appropriated $25,000 to the State University to help implement CAN as part of a broader bill dealing with articulation, but the bill was vetoed for reasons not directly related to the CAN system.

Fifth and finally, some would view the dependence of CAN on written articulation agreements reached by faculty on various campuses as a limitation in that it tends to slow statewide implementation. This limitation may, however, be viewed as a strong feature of CAN, since common course numbers assigned without such agreements may mislead transfer students with respect to their value in satisfying degree requirements. Common course numbers cannot replace articulation agreements arrived at by pairs of institutions between which students frequently transfer, and any simplistic approach to assigning uniform numbers leads to complex, confusing "footnotes" containing exceptions and limitations on the transfer value of such courses at some institutions and in some programs.

FUTURE PROSPECTS OF CAN

Results of the Fall 1984 round of participation in CAN are not yet available. However, the CAN system has unlimited capacity for course inclusion and institutional participation. There appears to be no strong segmental or institutional opposition to the system, although some campuses are understandably more ready and eager to participate than others.

State funding is needed for state-level coordination of the future development and maintenance of the CAN system and for siting its coordination in an

appropriate segmental office, agency, or institution. However, CAN is expected to continue temporarily and expand modestly even in the absence of such funding, since its participants believe that it has potential to help transfer students cope with the presently complex and confusing course numbering of California's colleges and universities.

THREE

SPECIFICATIONS FOR A CALIFORNIA COURSE-NUMBERING SYSTEM

STATUTORY SPECIFICATIONS FOR A SYSTEM

Section 9 of Chapter 565 of the Education Code suggests three specifications for any common course-numbering system to be developed for California:

a. Promote the transfer of community college students to four-year postsecondary institutions by simplifying the identification of transferable courses and the specific disciplines and programs to which those courses are transferable.

b. Promote the development of a common method of course identification within each segment of public postsecondary education where there is a clear need for such a common method.

c. Help identify courses with comparable content, so that certain competencies can be expected upon completion of such courses.

The CAN system satisfies these three statutory specifications in the following ways:

Simplifying Course Identification

CAN simplifies the identification of transferable courses and the disciplines in which they are taught in that it is based on approved transfer and articulation agreements between institutions in different segments between which students transfer. A California Articulation Number is a common number that is independent of the institutions' own numbers and includes a discipline-related prefix to be used by all institutions.

By itself, any common course-numbering system cannot identify programs to which courses are transferable because of its inherent simplicity: It cannot replace course and program articulation agreements, although it can incorporate them in arriving at common numbers. For example, Florida's Statewide Course Numbering System does not identify community college courses accepted by its public universities for transfer credit and has little value in this regard unless accompanied by articulation guides developed cooperatively by institutions between which students transfer. In other words, common course numbers do not imply transferability to meet baccalaureate-degree requirements.

Intrasegmental Course Numbering

The CAN system can be expanded to a common method of course identification within each segment as well as between segments. The value of and need for

such expansion is not yet clear, however, especially at the upper-division level, since courses with the same number are not necessarily interchangeable.

In this regard, the California Postsecondary Education Commission offers several recommendations later in this report for the Community College segment because of variations in the types and scope of their courses certified to the State University as baccalaureate-level instruction. The Commission's objective in making these recommendations is not uniformity for its own sake but, instead, fairness to transfer students taking similar courses in different institutions that differ in their transferability for no educationally defensible reason.

Common Competencies

Common course-numbering systems, including CAN, are not designed to identify courses with common content, but courses with the same number should be expected to have similar objectives related to competencies, even if their course content is not the same. Articulation agreements between segments and institutions, which are the basis for CAN's common course numbers, give assurances of commonality of course outcomes and are indispensible in this regard.

NEEDED SPECIFICATIONS FOR A SYSTEM

Preservation of Faculty Autonomy

A course-numbering system for California institutions of postsecondary education should be based on the concept that Community College courses for baccalaureate-degree credit are taken by their students in lieu of University, State University, or other courses that satisfy particular degree requirements. Other common course-numbering systems usually assume that courses with the same number that are offered by different institutions are to some degree either equivalent, comparable, or even the same. CAN's "in lieu of" concept, however, allows Community College faculties to develop the kinds of courses to meet degree requirements that they think are most appropriate in their particular academic setting, without necessarily adhering to the same content, materials, or mode of instruction of courses offered by four-year institutions. General outcomes are expected to be the same, as they relate to particular degree requirements, but the means of achieving them may be different.

Unlike many states, California recognizes that the Community Colleges may offer some courses for baccalaureate-degree elective credit that have no equivalents in the University or the State University and thus would not fit into a uniform course-numbering system like Florida's. These courses are usually in occupational fields and are certified to the State University as baccalaureate level and worthy of some type of degree credit. Very often the State University offers a bachelor's degree in the same career field, such as law enforcement or recreation, and teaches some courses at the upper-division level that are like those taught at the lower-division level and certified for baccalaureate-degree credit by Community Colleges. In

proposing a course-numbering system for California, care needs to be taken that lower-division courses taught uniquely by Community Colleges at the baccalaureate level are not excluded from transfer agreements simply because no common course numbers can be found for them in the University or the State University.

California views its Community Colleges, University, and State University as partners in higher education with respect to baccalaureate-degree education, with Community Colleges providing initial access for about half of the students awarded degrees by the four-year segments. Thus, the autonomy of faculty in each segment needs to be respected both in developing baccalaureate-level courses and in setting degree requirements, as long as transfer students are able to complete degree programs in a timely fashion and under conditions that do not discriminate against them in comparison with students who begin their work as freshmen in the institution awarding the degree. Course and program articulation agreements negotiated by faculty in two or more segments have been the vehicle that has made this possible in the past, and any course-numbering system for California needs to be based on these agreements that respect the autonomy of each segment.

Recognition of Student Behavior

The tranfer function would work a great deal better if Community College students enrolled full-time at one institution for two years and spent these two years preparing to transfer in a particular discipline to the four-year campus from which they wish to receive a baccalaureate degree. Few students behave in this fashion, however. A course-numbering system for California needs to take into account that students often enroll part time over a period of several years and attend two or more Community Colleges or other institutions before reaching upper-division standing, drop out from time to time, and change plans with respect to their major and the campus to which they expect to transfer.

An intersegmental course-numbering system can be helpful in the evaluation of transcripts of such students when they transfer, but it will not substantially reduce problems arising from such enrollment patterns. Because students often transfer among and between Community Colleges in the same or different districts, a course-numbering system for California should provide for cross-referencing courses within that segment as well as across segments. While transfer among University and State University campuses and between those segments appears to be less frequent than among Community Colleges, cross-referencing courses within and between the four-year segments at both the lower- and upper-division levels may be desirable.

Finally, California Community College students are not required to earn an associate degree before transferring and tend not to do so. Students may earn as much as 70 semester units of baccalaureate credit in a Community College (more than half the number required for the degree), but they can transfer with a minimum of 56 semester units if they were not eligible for University or State University admission when they graduated from high school, or at any time with a C grade-point average if they were eligible on the basis of their high school record and test scores. Thus, California Community College transfer student enrollment patterns are not at all neat

and make articulation efforts ineffective if they go unrecognized. A useful common course-numbering system for California should thus be free of any assumption about when students should transfer and should strive to make transfer less costly in terms of students' time and money, rather than restrict their options or erect barriers to transfer.

FOUR

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

Based on its analysis of common course-numbering systems in other states and in California, the California Postsecondary Education Commission offers the following four conclusions about such systems:

1. A systematic approach to numbering baccalaureate-level courses offered by California's various segments and institutions of higher education would help students make choices related to transfer, plan their lower-division programs, and evaluate alternative transfer opportunities. The present lack of coherence in course numbering, even within a single segment, results in at least some transfer students losing time and credit in earning their baccalaureate degree and may result in students being denied opportunity to transfer because of confusion about courses to be taken to satisfy transfer requirements.

2. A uniform course-numbering system like that in place in Florida is unnecessary in California, excessively costly and bureaucratic, and probably unworkable because of the size and complexity of California higher education, including the wide range of California Community College courses that receive baccalaureate-degree credit. Furthermore, such a uniform system appears to make unduly simplistic assumptions about the comparability or equivalency of courses offered by different institutions and gives Community College students and counselors a false sense of security about equivalency if they are not fully familiar with the special conditions and limitations imposed by some institutions on transfer courses with common numbers.

3. Course-equivalency guides and matrices of equivalent courses in particular programs are of limited value in California because of the large number of programs and institutions that are involved in the transfer function here. A Community College may find such matrices useful in displaying for selected majors the variations and commonalities among the lower-division course requirements of the institutions to which their students transfer, cross-indexed to the courses it offers to meet such requirements. However, such matrices share with articulation agreements generally the limitation of not being well known to the students and counselors who need them.

4. A generic course-numbering system that includes a common course prefix and number but does not replace institutions' own course numbers and titles would best meet the needs set forth in Section 9 of Chapter 565 of the Education Code. The existing California Articulation Number (CAN) system offers sufficient promise of meeting these needs and other objectives of a useful common course-numbering system that it should be

recommended for funding by the Legislature.

RECOMMENDATIONS

The Commission therefore recommends that:

1. The Legislature and the Governor should provide funding for further implementation of the California Articulation Number (CAN) system in accordance with the plan for implementation set forth below.

2. The Chancellor's Office of the California Community Colleges should add California Articulation Numbers to its State-level course data base for use in analyzing similarities and differences among the Community Colleges in the courses for which their transfer students receive baccalaureate credit, particularly courses in occupational programs.

3. The University President's Office, the State University Chancellor's Office, and the Community Colleges Chancellor's Office, with the assistance of their respective faculty senates, should study the feasibility of, and make recommendations to the Commission about, adopting California Articulation Numbers for all undergraduate courses offered generally across campuses in each of their segments.

4. Task forces and faculty groups with responsibility for defining and establishing criteria for associate- and baccalaureate-level courses should complete their work by the end of this academic year and make recommendations for use in clarifying their segments' currently complex systems for numbering courses.

5. The University, the State University, and the Community Colleges should report to the Commission by November 15, 1985, on actions they have taken to carry out the above recommendations as well as any changes resulting from them.

PLAN FOR IMPLEMENTING THE CALIFORNIA ARTICULATION NUMBER SYSTEM

The Commission proposes the following steps to implement the California Articulation Number (CAN) system, as recommended above:

1. The University, the State University, the Community Colleges, the Association of Independent California Colleges and Universities, and the Commission shall appoint representatives for a Coordinating Committee for the implementation of CAN, to be chaired by the current convener with assistance from Commission staff until such time as the Legislature enacts CAN into statute and provides funds for its implementation and maintenance.

Segmental representatives shall include at least one central-office staff and one faculty member from a campus now participating in CAN.

2. Assuming prompt legislative action in the 1985 session, staff for CAN shall be recruited by the segment, campus, or agency where statutory responsibility for CAN is to be assigned, and responsibilities transferred from the current convener and the Commission staff to CAN staff as quickly as feasible.

3. The CAN Coordinating Committee shall propose a timetable for the inclusion in CAN of all campuses of the University and the State University and all Community Colleges, together with those independent institutions wishing to participate, and report its proposal to the Commission by November 15, 1985, for review and comment to the Legislature, including information about any public institutions declining to participate.

4. Since intersegmental articulation agreements are essential for CAN, the State-level offices of the three public segments shall inventory and report annually to the CAN Coordinating Committee on the status of their course and program articulation agreements, including those which are (1) current and without apparent problems, (2) incomplete with respect to approval by one of the participating segments, and (3) in need of updating.

   The segments shall also attempt to identify areas in which new agreements are needed and report them to the Coordinating Committee.

   Using the results of the inventory, the Coordinating Committee shall analyze differences in the status of articulation reported by the segments and recommend necessary steps to resolve such differences as well as problems of incomplete and out-of-date agreements.

5. As new institutions begin participating in CAN and as new articulation agreements are approved, CAN numbers shall be entered into institutional catalogs and class schedules, with an explanation of their meaning and uses that is in accordance with guidelines developed by the CAN Coordinating Committee.

6. The CAN Coordinating Committee shall report through the Commission by November 15 each year on the number of (1) new and continuing institutions participating in CAN, (2) new articulation agreements updated in CAN, and (3) any new CAN disciplines and course numbers added during the past year.

7. The Commission shall review and comment on CAN to the Legislature in January 1987 with respect to the extent to which it meets the needs for a statewide common course-numbering system as stated by the Legislature in Section 9 of Chapter 565 of the Education Code in 1983 and with recommendations concerning needed changes in CAN.

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CALIFORNIA POSTSECONDARY EDUCATION COMMISSION
1020 Twelfth Street, Sacramento, California 95814 Telephone (916) 445-7933

A state agency created in 1974 to assure the effective utilization of public postsecondary education resources, thereby eliminating waste and unnecessary duplication, and to promote diversity, innovation, and responsiveness to student and societal needs through statewide planning and coordination.

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